

AF/1733
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FEE TRANSMITTAL for FY 2004

Effective 10/01/2003, Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$) 330.00

Complete if Known

Application Number	09/726,548
Filing Date	December 1, 2000
First Named Inventor	Noboru Okada
Examiner Name	G. L. Knable
Art Unit	1733
Attorney Docket No.	OGW-0019

METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit Card ☐ Money Order ☐ Other ☐ None

☒ Deposit Account:

Deposit Account Number

18-0013

Deposit Account Name

Rader, Fishman & Grauer PLLC

The Director is authorized to: (check all that apply)

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FEE CALCULATION

1. BASIC FILING FEE

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1001	770	2001	385	Utility filing fee	
1002	340	2002	170	Design filing fee	
1003	530	2003	265	Plant filing fee	
1004	770	2004	385	Reissue filing fee	
1005	160	2005	80	Provisional filing fee	

SUBTOTAL (1) (\$) 0.00

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

Total Claims	Extra Claims	Fee from below	Fee Paid
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Independent Claims	<input type="text"/>	<input type="text"/>	<input type="text"/>
Multiple Dependent	<input type="text"/>	<input type="text"/>	<input type="text"/>

Large Entity		Small Entity		Fee Description
Fee Code	Fee (\$)	Fee Code	Fee (\$)	
1202	18	2202	9	Claims in excess of 20
1201	86	2201	43	Independent claims in excess of 3
1203	290	2203	145	Multiple dependent claim, if not paid
1204	86	2204	43	** Reissue independent claims over original patent
1205	18	2205	9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) (\$) 0.00

** or number previously paid, if greater, For Reissues, see above

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet.	
1053	130	1053	130	Non-English specification	
1812	2,520	1812	2,520	For filing a request for <i>ex parte</i> reexamination	
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
1251	110	2251	55	Extension for reply within first month	
1252	420	2252	210	Extension for reply within second month	
1253	950	2253	475	Extension for reply within third month	
1254	1,480	2254	740	Extension for reply within fourth month	
1255	2,010	2255	1,005	Extension for reply within fifth month	
1401	330	2401	165	Notice of Appeal	
1402	330	2402	165	Filing a brief in support of an appeal	330.00
1403	290	2403	145	Request for oral hearing	
1451	1,510	1451	1,510	Petition to institute a public use proceeding	
1452	110	2452	55	Petition to revive - unavoidable	
1453	1,330	2453	665	Petition to revive - unintentional	
1501	1,330	2501	665	Utility issue fee (or reissue)	
1502	480	2502	240	Design issue fee	
1503	640	2503	320	Plant issue fee	
1460	130	1460	130	Petitions to the Commissioner	
1807	50	1807	50	Processing fee under 37 CFR 1.17(q)	
1806	180	1806	180	Submission of Information Disclosure Stmt	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	
1809	770	2809	385	Filing a submission after final rejection (37 CFR 1.129(a))	
1810	770	2810	385	For each additional invention to be examined (37CFR 1.129(b))	
1801	770	2801	385	Request for Continued Examination (RCE)	
1802	900	1802	900	Request for expedited examination of a design application	

Other fee (specify)

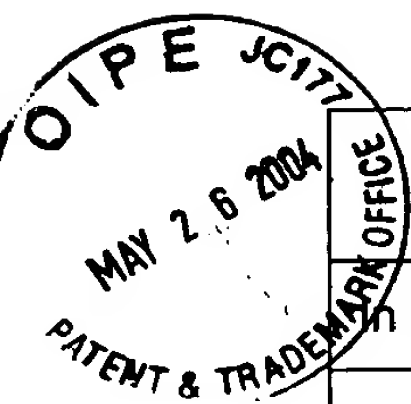
*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$) 330.00

SUBMITTED BY

(Complete (if applicable))

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Signature		Date	May 26, 2004		



TRANSMITTAL OF APPEAL BRIEF

Docket No.
OGW-0019

In re Application of: Noboru OKADA et al.

Application No.
09/726,548

Filing Date
December 1, 2000

Examiner
G. L. Knable

Group Art Unit
1733

Invention: TIRE FORMING SYSTEM AND TIRE FORMING METHOD

TO THE COMMISSIONER OF PATENTS:

Transmitted herewith in triplicate is the Appeal Brief in this application, with respect to the Notice of Appeal filed: April 29, 2004.

The fee for filing this Appeal Brief is 330.00.

☒ Large Entity ☐ Small Entity

☐ A check in the amount of _____ is enclosed.

☒ Charge the amount of the fee to Deposit Account No. 18-0013.
This sheet is submitted in duplicate.

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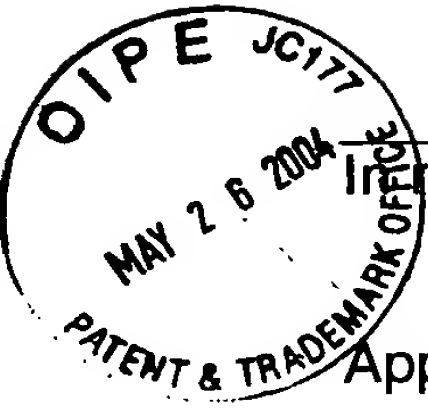
☒ The Director is hereby authorized to charge any additional fees that may be required or credit any overpayment to Deposit Account No. 18-0013.
This sheet is submitted in duplicate.

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Dated: May 26, 2004



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Application of:

Attorney Docket No.: OGW-0019

Noboru OKADA et al.

Art Unit: 1733

Application No.: 09/726,548

Examiner: G. L. Knable

Filed: December 1, 2000

Confirmation No. 3094

For: TIRE FORMING SYSTEM AND TIRE FORMING METHOD

APPEAL BRIEF

MS APPEAL BRIEF - PATENTS

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Dear Sir:

This appeal brief is in furtherance of the Notice of Appeal, filed in this case on April 29, 2004.

The fees required under § 1.17(f) and any required petition for extension of time for filing this brief and fees therefor, are addressed in the accompanying TRANSMITTAL OF APPEAL BRIEF.

This brief is transmitted in triplicate.

This brief contains items under the following headings as required by 37 C.F.R. § 1.192 and M.P.E.P. § 1206:

- I. Real Party In Interest
- II Related Appeals and Interferences
- III. Status of Claims
- IV. Status of Amendments
- V. Summary of Invention
- VI. Issues
- VII. Grouping of Claims
- VIII. Arguments
- IX. Conclusion
- Appendix A Claims
- Appendix B Drawing Figures 1 and 2

I. REAL PARTY IN INTEREST

The real party in interest for this appeal is:

The Yokohama Rubber Co., Ltd. of Tokyo, Japan ("Yokohama ") is the real party in interest of the present application. An assignment of all rights in the present invention to Yokohama was executed by the inventor(s) and recorded by the United States Patent and Trademark Office on reel 011324, frame 0298.

II. RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences which will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS

A. *Total Number of Claims in Application*

There are four (4) claims pending in application.

B. *Current Status of Claims*

1. Claims canceled: 2, 3, 6, 7 and 9-16
2. Claims withdrawn from consideration but not canceled: none
3. Claims pending: 1, 4, 5 and 8
4. Claims allowed: none
5. Claims rejected: 1, 4, 5 and 8

C. *Claims On Appeal*

The claims on appeal are claims 1, 4, 5 and 8.

IV. STATUS OF AMENDMENTS

An Amendment under 37 C.F.R. §1.111 in which claims 1, 3-5, 7 and 8 were amended was filed on October 3, 2002, in response to the first Office Action dated July 3, 2002. A Supplemental Amendment under 37 CFR §1.111 further amending claims 1, 5, 7 and 8 was filed on October 8, 2002. In response to the final Office Action dated December 30, 2002, Applicants filed on April 21, 2003, a Request for Continued Examination under Rule 114 and a Preliminary Amendment under 37 CFR §1.115 canceling claims 2 and 6, adding new claims 9-16 and further amending claims 1 and 5. In response to a non-final Office Action dated July 3, 2003,

Applicants filed on October 3, 2003, an Amendment under 37 CFR §1.111 canceling claims 9-16 and amending claims 4 and 8. In response to a final Office Action dated December 3, 2003, Applicants filed on February 18, 2004, an Amendment After Final Rejection under 37 CFR §1.116 canceling claims 3 and 7.

Accordingly, claims 1, 4, 5 and 8 enclosed herein and recited in Appendix A are the amended, pending claims of the application.

V. SUMMARY OF INVENTION

With reference to Figs. 1 and 2 in Appendix B, a tire forming system (the entirety of the Figs. 1 and 2) includes a band forming machine 10, a shaping forming machine 20 and a belt/tread forming machine 30. In each of these forming machines setting conditions of a tire size can be optionally changed. A transport device (a combination of rails 55 and wheels 11, 21, 31, 41 and 51) delivers a semi-fabricated product to each forming machine. A supplying device (60, 70, 80, 90) for a band member includes:

(1) an inner liner supply device 60 for cutting a inner liner sheet material 61 having a width, in which a splice margin is added to a band periphery length, to a length corresponding to a specification width of a formed tire, and supplying the cut inner liner 65 to the band forming machine 10;

(2) a carcass supply device 70 for cutting a carcass sheet material 71 having a width, in which a splice margin is added to a band periphery length, to a length corresponding to a specification width of the formed tire, and supplying the cut carcass 75 to the band forming machine 10;

(3) band rubber parts supply devices 80 for injecting a rubber strip from an injection unit 82, winding the rubber strip around a drum 14 of the band forming machine 10, and forming, on the basis of its laminated structure, rubber parts having a profile corresponding to a specification of the formed tire; and

(4) a bead supply device 90 for supplying a completed bead A or B corresponding to a specification of the formed tire to the band forming machine 10 through a bead setter 44.

A supply device (100, 110) for a belt/tread member includes:

(5) a belt supply device 100 for cutting a belt strip material 103, in which plural cords are arranged and rubberized, to predetermined length and angle, mutually splicing edge portions of the plural cut strip pieces 106 to form a belt 107 for one tire, which has a length, a cord angle and a width corresponding to specifications of the formed tire, and supplying the belt to the belt/tread forming machine 30; and

(6) a tread rubber parts supply device 110 for injecting a rubber strip from an injection unit 112, winding the rubber strip around a drum 34 of the belt/tread forming machine 30, and forming, on the basis of its laminated structure, rubber parts having a profile corresponding to a specification of the formed tire.

The supplying device (60, 70, 80, 90) for the band member and the supply device (100, 110) for the belt/tread member are operative to cooperate with one another to continuously in series form a plurality of tires having different tire sizes yet a same bead inner diameter. Also, the bead supply device 90 holds plural kinds of completed beads with each having a bead core corresponding to the band periphery length, selects the completed bead corresponding to the specification of the formed tire from the plural kinds of completed beads, and supplies the selected completed bead to the band forming machine 10 through the bead setter 44.

Also, a tire forming method is claimed implementing the tire forming system discussed above.

VI. ISSUES

1. Whether claims 1, 4, 5 and 8 rejected under 35 U.S.C. 103(a) are unpatentable over Irie (U.S. Patent No. 4,468,267) in view of Yokohama (Japan 59-93345), Brown et al. (U.S. Patent No. 5,554,242), Laurent (U.S. Patent No. 4,963,207), Okada et al. (EP 958,913) and Krupp (EP 624,456) and, optionally, Pirelli (EP 875364) and further in view of Nakahama (U.S. Patent No. 4,369,086) and Brey et al. (U.S. Patent No. 3,849,231).

VII. GROUPING OF CLAIMS

For purposes of this Appeal Brief only, and without conceding the teachings of any prior art references, the claims have been grouped as indicated below:

Groups of Claims

1. Claims 1, 4, 5 and 8 stand or fall together.

VIII. ARGUMENTS

A. Introduction

Claims 1, 3-5, 7 and 8 are rejected under 35 U.S.C. 103(a) as unpatentable over Irie (U.S. Patent No. 4,468,267) in view of Yokohama (Japan 59-93345), Brown et al. (U.S. Patent No. 5,554,242), Laurent (U.S. Patent No. 4,963,207), Okada et al. (EP 958,913) and Krupp (EP 624,456) and, optionally, Pirelli (EP 875364) and further in view of Nakahama (U.S. Patent No. 4,369,086) and Brey et al. (U.S. Patent No. 3,849,231). Applicants respectfully traverse the rejection.

Applicants canceled claims 3 and 7 and therefore the rejection as applied to these claims is now moot. Thus, claims 1, 4, 5 and 8 are in issue.

Irie teaches an apparatus and method for manufacturing a radial tire. A carcass ply is formed into a cylindrical shape having an external diameter almost equal to an internal diameter of a pair of beaded cores. The cylindrical carcass is subsequently transformed to assume a circumferentially wave-shaped corrugated carcass ply over an entire length thereof in an axial direction while containing an outer diameter of the carcass ply. The pair of beaded cores are arranged in selected positions on the wave-shaped corrugated carcass ply which has been contracted in diameter. The carcass ply is then normalized into its cylindrical shape so as to form a structure having a pair of bead cores in contact with the external surface of the carcass ply. The carcass ply is expanded in diameter in an area thereof between the pair of bead cores of the structure. End portions of the carcass ply disposed axially outside the bead cores are bent so as to enclose the bead cores therein within portions of the carcass ply. A cylindrical carcass layer is then assembled by incorporating sidewall members with the structure. The cylindrical carcass layer is transformed to a torroidal shape thereby forming a green tire.

Yokohama teaches a method and apparatus for supplying tire component material. The Examiner cites this reference to show an industry trend to eliminate the need for stocking of materials for tires.

Brown teaches a method for making a multi-component tire. A band that constitutes a tire carcass is formed by adding gum strips to an inner liner which is covered with a ply to form the band which is then transferred to a first tire building position for the addition of a sidewall, shoulder wedge and beads. From this position, these components are transferred to a second tire building position for final shaping of an uncured tire and the addition of breakers and tread rubber. The sidewall and shoulder wedge are formed by applying a plurality of turns of elastomer strip to obtain their shape on the carcass at the first tire building position.

Laurent teaches a method and apparatus of manufacturing a tire by laying rubber products onto a firm support. The Examiner points out in column 2, lines 15-24, that the object of this invention is to provide a method and apparatus of manufacturing tires which does away with the necessity of preparing numerous semi-finished products, as is required in conventional methods of manufacture.

Okada teaches an apparatus and method for aligning and splicing strip members for the manufacturer of pneumatic radial tires. The Examiner applies this reference to show a belt supply process/means that are formed by rubberizing strips which are spliced to form a belt.

Krupp discloses a device for picking up, transporting and accurately locating a bead wire on a tire building machine. The device allows different sizes of bead wires without the cost of additional parts for each size and enables size change to be rapidly made.

Pirelli teaches a method and apparatus for producing a plurality of different tires having different features and being distributed in at least two separate series. The plurality of different tires are produced in an intermittent mode in arrangements of successive lots where the production of one lot belonging to one predetermined series alternates with the production of another lot of tires belonging to a different series.

Nakahama discloses a bead supply apparatus.

Brey teaches a bead mechanism.

Mukae teaches an apparatus for transferring annular articles such as pneumatic tires from one station to another station.

The Examiner applies the immediately above three references, i.e. Nakahama, Brey and Mukae, to show additional detail of conventional devices and processes used to supply beads and transferring tires. The Examiner states that such references show the well-known use of storage means for a plurality of beads in a vicinity of a building, i.e. assembly line.

According to the present invention, it is possible to instantaneously alter the settings of the tire forming system including inner liner supply means, carcass supply means, band rubber parts supply means, belt/tread member supply means and bead supply means, to cope with an optional particular specification of a tire to be formed. Thus, if it is made to control all the member means of the system by a computer for example, then it even is possible to alter tire specifications, each for a small lot production.

With the tire production equipment in the prior art, while it is possible to produce tires of a plurality of different specifications on a same production line, they are on condition that tires of a same specification are produced continuously in mass, in contrast to the claimed invention that is on condition that tires of a variety of different specifications are produced each in a small quantity. In other words, in the prior art, there does not exist such a technical concept according to which, with use of a large scale tire production equipment, tires of a variety of specifications are produced, each in a limited quantity.

B. Examiner Fails to Establish a Prima Facie Case of Obviousness

In rejecting claims under 35 U.S.C. 103, the United States Patent and Trademark Office bears the initial burden of presenting a *prima facie* case of obviousness. Only if that burden is met, does the burden of coming forward with evidence or argument shift to the applicant. "A *prima facie* case of obviousness is established if the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art." In re Bell, 991 F.2d 781, 782, 26 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1993) quoting In re Rinehart, 531 F.2d 1048, 1051, 189 U.S.P.Q. 143, 147 (CCPA 1776). The test for obviousness is what the combined teachings of the references would have suggested to one of ordinary skill in the art. The conclusion that the claimed subject

matter is obvious must be supported by evidence, as shown by some objective teaching in the prior art or by knowledge generally available to one of ordinary skill in the art that would have led the individual to combine the relevant teachings of the references to arrive at the claimed invention. If the Examiner fails to establish a *prima facie* case of obviousness, the rejection is improper and will be overturned.

C. There Is No Basis in the Art for Combining or Modifying References

It is respectfully submitted that the motivation presented by the United States Patent and Trademark Office is derived from the claimed invention, not the applied art. Based upon the benefits of the claimed invention, the United States Patent and Trademark Office improperly establishes motivation because it is found in the claimed invention and not in the applied art. The United States Patent and Trademark Office must show motivation to combine the applied art in view of the applied art themselves, not by showing the benefits of the claimed invention itself.

MPEP 2143.01 states that the prior art must suggest the desirability of the claimed invention. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art.

Thus, the United States Patent and Trademark Office fails to properly establish any motivation for one of ordinary skill in the art to combine the features of the applied art to arrive at the claimed invention. To the contrary, the motivation asserted by the United States Patent and Trademark Office is actually found in the claimed invention.

What is constructed by the United States Patent and Trademark Office is merely a fragmentary combination or aggregation of prior art references which are on the premise of a mass production, and the United States Patent and Trademark Office fails to cite a reference showing such a tire production system enabling a small quantity production respectively of a variety of tires different in the specification which is an advantage of the claimed invention.

Furthermore, it is respectfully submitted that the United States Patent and Trademark Office may not, because of doubt that the invention is patentable, resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in the factual basis for the rejection.

It is respectfully submitted that there must be a basis in the art for combining or modifying references. Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination. The Examiner provides no reasonable justification for one of ordinary skill in the art to combine the features of Irie, Yokohama, Brown, Laurent, Okada and Krupp and, optionally, Pirelli, Nakahama and Brey. It is respectfully submitted that it is highly improbable that one of ordinary skill in the art would combine the teachings of six (6) to nine (9) references to arrive at the claimed invention.

Further, it is respectfully submitted that where no reasonable intrinsic or extrinsic justification exists for the proposed combination, *prima facie* obviousness will not have been established. Thus, assuming arguendo that Irie, Yokohama, Brown, Laurent, Okada and Krupp and, optionally, Pirelli, Nakahama and Brey, in combination, might teach or suggest the individual features of the claimed invention, there is no reasonable justification found in these references for this combination proposed by the Examiner.

D. Examiner Fails to Establish Motivation for Combining the Applied Art

MPEP 2143.01 states that the prior art must suggest the desirability of the claimed invention. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). It is respectfully submitted that the Examiner fails to identify a persuasive suggestion to combine the teachings of the references. "Identification in the prior art of each individual part claimed is insufficient to defeat patentability to the whole claimed invention." In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1316 (Fed. Cir. 2000) (citing In re Rouffet, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457 (Fed. Cir. 1998)). "Rather, to establish obviousness based on a combination of the elements disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the applicant." Id., 55 USPQ2d at 1316 (citing In re Dance, 160 F.3d 1339, 1343, 48 USPQ2d 1635, 1637 (Fed. Cir. 1998))

and In re Gordon, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984).

“Evidence of a suggestion, teaching, or motivation to combine may flow from the prior art references themselves, the knowledge of one of ordinary skill in the art, or, in some cases, from the nature of the problem to be solved....” In re Dembiczak, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999) (citing Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc., 75 F.3d 1568, 1573, 37 USPQ2d 1626, 1630 (Fed. Cir. 1996) and Para-Ordinance Mfg. v. SGS Imports Intern., Inc., 73 F.3d 1085, 1088, 37 USPQ2d 1237, 1240 (Fed. Cir. 1995)). “The range of sources available, however, does not diminish the requirement for actual evidence. That is, the showing must be clear and particular. See, e.g., C.R. Bard, 157 F.3d at 1352, 48 USPQ2d at 1232. Broad conclusory statements regarding the teaching of multiple references, standing alone, are not ‘evidence.’” Id., 50 USPQ2d 1576 at 1617 (citing McElmurry v. Arkansas Power & Light Co., 995 F.2d 1576, 1578, 27 USPQ2d 1129, 1131 (Fed. Cir. 1993) and In re Sichert, 566 F.2d 1154, 1164, 196 USPQ 209, 217 (CCPA 1977)).

It is respectfully submitted that one of ordinary skill in the art would not be motivated to combine the features of the applied art because such combination of the applied art would not result in the claimed invention. As suggested and explained above, the applied art fails to teach or suggest the possibility to instantaneously alter the settings of the tire forming system including inner liner supply means, carcass supply means, band rubber parts supply means, belt/tread member supply means and bead supply means, to cope with an optional particular specification of a tire to be formed in order to alter tire specifications, each for a small lot production. For this additional reason, there cannot be any motivation for combining the features of the applied art.

The United States Patent and Trademark Office must show motivation to combine the applied art in view of the applied art themselves, not by showing the benefits of the claimed invention itself. MPEP 2143.01 states that the prior art must suggest the desirability of the claimed invention. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art.

Thus, the United States Patent and Trademark Office fails to properly establish any motivation for one of ordinary skill in the art to combine the features of the applied art to arrive at the claimed invention. To the contrary, the motivation asserted by the United States Patent and Trademark Office is actually found in the claimed invention.

E. Examiner Ignores Results and Advantages of the Invention

Furthermore, it is a basic tenet of patent law that the U.S. Patent and Trademark Office is not permitted to ignore the results and advantages produced by claimed subject matter, of which the prior art is devoid, simply because the claimed limitations are similar to that otherwise barren prior art. Diversitech Corp. v. Century Steps, Inc., 850 F.2d 675, 7 USPQ2d 1315 (Fed. Cir. 1988); In re Chupp, 816 F.2d 643, 2 USPQ2d 1437 (Fed. Cir. 1987); Formson v. Advance Offset Plate, 755 F.2d 1549, 225 USPQ 26 (Fed. Cir. 1985). Thus, the results and advantages are a part of the claimed invention as a whole.

As mentioned above, with the tire production equipment in the prior art, while it is possible to produce tires of a plurality of different specifications on a same production line, they are on condition that tires of a same specification are produced continuously in mass, in contrast to the claimed invention that is on condition that tires of a variety of different specifications are produced each in a small quantity. In other words, in the prior art, there does not exist such a technical concept according to which, with use of a large scale tire production equipment, tires of a variety of specifications are produced, each in a limited quantity.

Furthermore, it is respectfully submitted that the results and advantages are a part of the claimed invention as a whole. It is a basic tenet of patent law that the United States Patent and Trademark Office is not permitted to ignore the results and advantages produced by claimed subject matter, of which the prior art is devoid, simply because the claimed limitations are similar to that otherwise barren prior art.

The motivation presented by the United States Patent and Trademark Office is derived from the claimed invention, not the applied art. Based upon the benefits of the claimed invention, the United States Patent and Trademark Office improperly establishes motivation because it is found in the claimed invention and not in the applied art. The United States Patent and Trademark Office must show motivation

to combine the applied art in view of the applied art themselves, not by showing the benefits of the claimed invention itself.


IX. CONCLUSION

It is respectfully submitted that the Examiner had failed to establish a *prima facie* case of obviousness for the reasons set forth above. It is respectfully requested the Board overturn the rejection and allow the pending claims.

Respectfully submitted,

Dated: May 26, 2004

By:



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Enclosure(s): Appendix A - Claims 1, 4, 5 and 8
 Appendix B - Drawing Figures 1 and 2

DC154857

APPENDIX A

Claims Involved in the Appeal of Application Serial No. 09/726,548

1. (PREVIOUSLY PRESENTED) A tire forming system including a band forming machine, a shaping forming machine and a belt/tread forming machine, in each of which setting conditions of a tire size can be optionally changed, and having transport means for delivering a semi-fabricated product to each forming machine, wherein as means for supplying a band member there are provided:

(1) inner liner supply means for cutting a inner liner sheet material having a width, in which a splice margin is added to a band periphery length, to a length corresponding to a specification width of a formed tire, and supplying the cut inner liner to the band forming machine;

(2) carcass supply means for cutting a carcass sheet material having a width, in which a splice margin is added to a band periphery length, to a length corresponding to a specification width of the formed tire, and supplying the cut carcass to the band forming machine;

(3) band rubber parts supply means for injecting a rubber strip from an injection unit, winding the rubber strip around a drum of the band forming machine, and forming, on the basis of its laminated structure, rubber parts having a profile corresponding to a specification of the formed tire; and

(4) bead supply means for supplying a completed bead corresponding to a specification of the formed tire to the band forming machine through a bead setter; and

as means for supplying a belt/tread member there are provided:

(5) belt supply means for cutting a belt strip material, in which plural cords are arranged and rubberized, to predetermined length and angle, mutually splicing edge portions of the plural cut strip pieces to form a belt for one tire, which has a length, a cord angle and a width corresponding to specifications of the formed tire, and supplying the belt to the belt/tread forming machine; and

(6) tread rubber parts supply means for injecting a rubber strip from an injection unit, winding the rubber strip around a drum of the belt/tread forming machine, and forming, on the basis of its laminated structure, rubber parts having a profile corresponding to a specification of the formed tire,

wherein the means for supplying the band member and the means for supplying the belt/tread member are operative to cooperate with one another to continuously in series form a plurality of tires having different tire sizes yet a same bead inner diameter and

wherein the bead supply means holds plural kinds of completed beads each having a bead core corresponding to the band periphery length, selects the completed bead corresponding to the specification of the formed tire from the plural kinds of completed beads, and supplies the selected completed bead to the band forming machine through the bead setter.

2. (CANCELED).

3. (CANCELED).

4. (PREVIOUSLY PRESENTED) A tire forming system set forth in claim 1, wherein each of the injection unit for the band rubber parts supply means and the injection unit for the tread rubber parts supply means is a plunger type injection unit in which there is accommodated, for the respective rubber parts, a rubber amount corresponding at least to the specification of the formed tire.

5. (PREVIOUSLY PRESENTED) A tire forming method using a tire forming system including a band forming machine, a shaping forming machine and a belt/tread forming machine, in each of which setting conditions of a tire size can be optionally changed, and having transport means for delivering a semi-fabricated product to each forming machine, wherein as a process for supplying a band member there are provided:

(1) an inner liner supply process for cutting a inner liner sheet material having a width, in which a splice margin is added to a band periphery length, to a length corresponding to a specification width of a formed tire, and supplying the cut inner liner to the band forming machine;

(2) a carcass supply process for cutting a carcass sheet material having a width, in which a splice margin is added to a band periphery length, to a

length corresponding to a specification width of the formed tire, and supplying the cut carcass to the band forming machine;

(3) a band rubber parts supply process for injecting a rubber strip from an injection unit, winding the rubber strip around a drum of the band forming machine, and forming, on the basis of its laminated structure, rubber parts having a profile corresponding to a specification of the formed tire; and

(4) a bead supply process for supplying a completed bead corresponding to a specification of the formed tire to the band forming machine through a bead setter; and

as a process for supplying a belt/tread member there are provided:

(5) a belt supply process for cutting a belt strip material, in which plural cords are arranged and rubberized, to predetermined length and angle, mutually splicing edge portions of the plural cut strip pieces to form a belt for one tire, which has a length, a cord angle and a width corresponding to specifications of the formed tire, and supplying the belt to the belt/tread forming machine; and

(6) a tread rubber parts supply process for injecting a rubber strip from an injection unit, winding the rubber strip around a drum of the belt/tread forming machine, and forming, on the basis of its laminated structure, rubber parts having a profile corresponding to a specification of the formed tire,

wherein the forming system is operative to continuously in series form a plurality of tires having different tire sizes yet a same bead inner diameter and

wherein, in the bead supply process, plural kinds of completed beads each having a bead core corresponding to the band periphery length are prepared, the completed bead corresponding to the specification of the formed tire is selected from the plural kinds of completed beads, and the selected completed bead is supplied to the band forming machine through the bead setter.

6. (CANCELED).

7. (CANCELED).

8. (PREVIOUSLY PRESENTED) A tire forming method set forth in claim 5, wherein each of the injection unit for the band rubber parts supply process and the

injection unit for the tread rubber parts supply process is a plunger type injection unit in which there is accommodated, for the respective rubber parts, a rubber amount corresponding at least to the specification of the formed tire.

9. - 16. (CANCELED).

APPENDIX B

Fig. 1

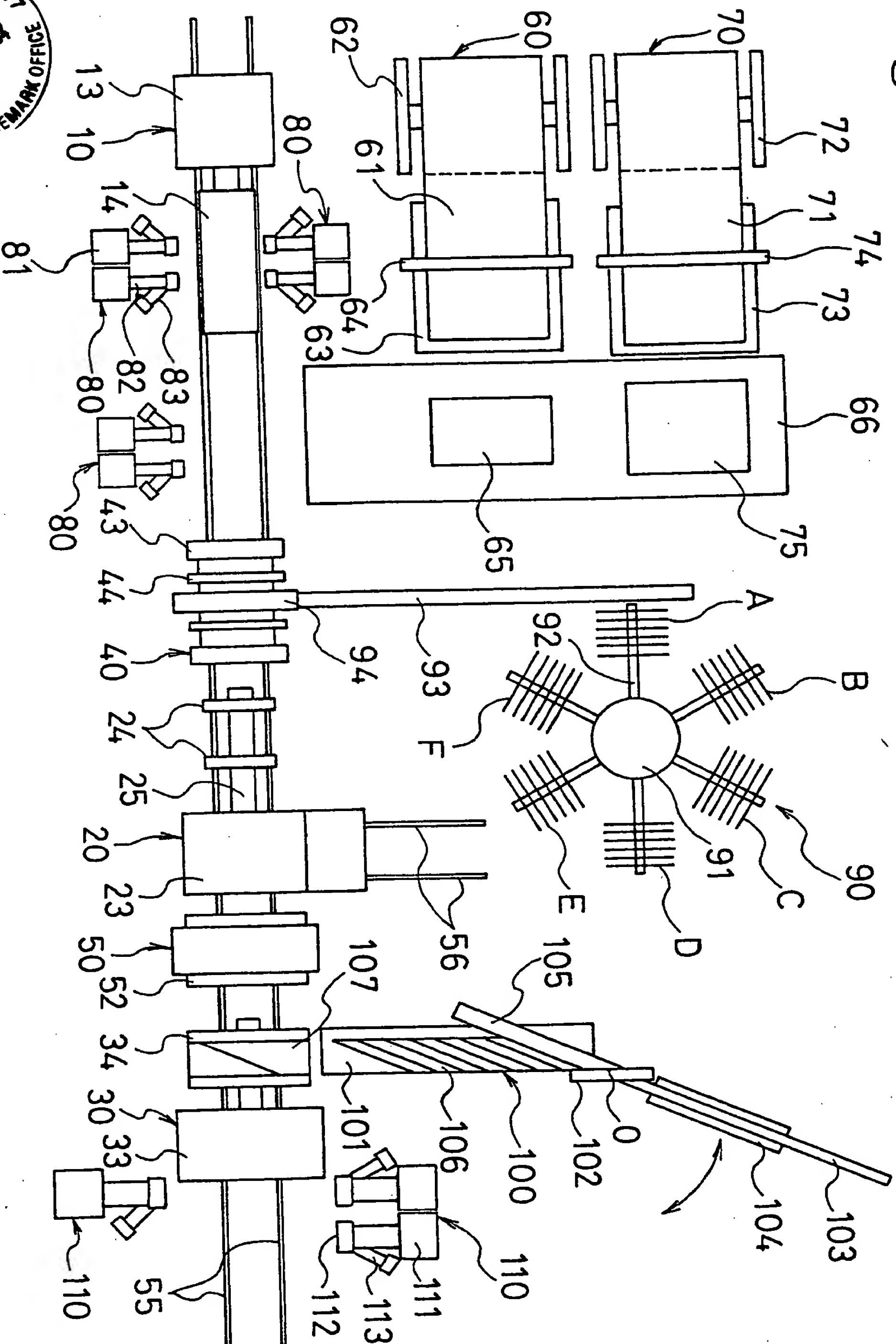


Fig. 2

